

Stress among caregivers of critically ill patients in a tertiary level hospital

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ABSTRACT

Background: Different people react differently to stress in difficult circumstances. Patients who are hospitalized in the critical care unit typically have major medical conditions. They may be unconscious or kept on artificial ventilation, which could be stressful for the caregivers.

Objectives: To assess the stress among caregivers of critically ill patients.

Methodology: A descriptive cross-sectional study was conducted among 126 caregivers of critically ill patients using convenient sampling at Kathmandu Medical College and Teaching Hospital, Nepal. Data was collected using the Kingston Caregiver Stress Scale through face-to-face interviews and analyzed using descriptive (frequency, percentage, mean and standard deviation) and inferential statistics (chi square test, p value significant at ≤ 0.05 level).

Results: The results showed that about two-thirds, 83 (65.9%) of the caregivers had a moderate level of stress, and 15 (11.9%) had severe stress. Financial factors were found to be the main factor causing stress. There was a statistically significant association of stress level with family income ($p=0.001$), education status ($p=0.021$), and marital status ($p=0.038$), among care givers.

Conclusion: Since caregivers were more stressed due to financial factors, provision of insurance schemes can be implemented at all levels of hospitals to cover the health care expenses. It would be better if the government health service became more accessible to the general public, which is cheaper than the private sector.

Keywords: Caregiver; critically ill patient; stress; tertiary level hospital

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INTRODUCTION

When a person finds it difficult to handle certain events or circumstances, stress may develop. Different people have different levels of difficulty facing challenging situations; some people are better at handling these situations than others.¹

Caregiving is a dynamic process involving patient treatment choices throughout chronic disease.² Critical care unit patients often have serious conditions, mechanical ventilation, or comatose conditions, affecting communication between patient and caregiver.³ A South African study found that family members' stress and crisis levels disrupted their ability to cope with critically ill patients, affecting clinical outcomes and resource utilization.⁴ This stress hinders understanding medical information and making informed decisions about patient care.⁵

Family members in intensive care face challenges that threaten their personal health and family stability.⁶ They often lack education and experience, prioritizing patient needs over their own health. Healthcare professionals

are now more concerned about caregiver distress during care.⁷

Previous studies revealed moderate-to-severe stress levels among of caregivers in critical care unit admissions.^{2,6,8} Families may feel helpless and defenseless due to critical illness. Support is needed to assess, cope, and adapt to the stress.⁹ Healthcare professionals should evaluate the perceived stress of family caregivers and learn about their needs to provide family-centered care.¹⁰ Educational, economic, sociocultural factors, and healthcare systems also influence the psychological impact of Intensive Care unit (ICU) admissions on relatives.¹¹

Critically ill patient's family members experience various emotions during hospitalization in intensive care units, causing stress for both patients and their families.¹² The ICU is a stressful environment, with unexpected admissions affecting patient wellbeing.¹³

METHODOLOGY

A descriptive cross sectional study design was used to assess the level of stress among caregivers of critically ill patients. The Study was conducted in different critical care units of Kathmandu Medical College Teaching Hospital (KMCTH), Nepal. The wards included were Neurosurgery Intensive Care Unit (NSICU), Medical Intensive Care Unit (MICU), Surgery Intensive Care Unit (SICU), Pulmonary Intensive Care Unit (PICU), and Neonatal Intensive Care Unit (NICU). As KMCTH is a tertiary level hospital with total ICU beds of 112 so the researcher selected this hospital conveniently. Non probability convenient sampling technique was used to select the sample. Sample size (126) was calculated using the formula of $n = z^2 pq / d^2$ with prevalence of extreme stress 9%¹³ from the previous article. For the inclusion in the study, one caregiver for one patient was selected who should be 18 years or above, stayed at least 24 hours in the hospital as a caregiver, and able to communicate in Nepali language. Information on caregiver stress was collected using structured questionnaire through one-to-one interview technique.

The two-part structured questionnaire was used for data collection consisting of sociodemographic characteristics and Kingston Caregiver Stress Scale (KCSS).¹⁴ The KCSS, developed by Kilik and Hopkins (2006) has three conceptual domains that capture subjective stress related to caregiving issues (7), family issues (2) and financial issues (1). The KCSS contains 10 neutrally worded questions, scored from 1 = no stress to 5 = extreme stress. Total scores can range from 10 (no stress

in any category) to 50 (extreme stress in all categories). Score was categorized as 0–14 mild, 15–23 moderate, and 24–50 high stress. The internal consistency for reliability of KCSS was found to be 0.89.¹⁴

The KCSS was translated in Nepali language through forward and backward translation by two independent language experts. Translated tool (Nepali version) was pretested in 10% of sample size for the clarity and understandability of the contents and it was clearly understandable so no need to any change.

Ethical approval was taken from the Institutional Review Committee of Kathmandu Medical College (Ref: 07102022/12). Informed written consent was taken from each respondent explaining purpose and process of study. Face to face interview was conducted to collect data after taking ethical and administrative approval from concern authorities on the month of November 2022. The collected data were checked daily for completeness. Data were analysed using the statistical package for social sciences, IBM SPSS Statistics for Windows version 27 (IBM Corp., Armonk, N.Y., USA) .

RESULTS

Majority, 102 (81%) of the respondents were of age group 20–40 years with mean \pm SD 34.43 \pm 8.21 years, more than half, 70 (55.6%) were male, most, 107 (84.9%) of them were Hindu by religion and 105 (83.3%) were married. Regarding education, about half of them, 61 (48.4%) had education up to basic level, 49 (38.9%) were involved in business and more than half, 71 (56.6%) had monthly family income ranging from 25000 to 50000 NRS. Regarding the care givers relationship with patient, one third, 36 (28.6%) of them were children followed by spouses, 28 (22.2%), and siblings, 25 (19.8%). Among the caregivers, 108 (85.7%) stayed with patients for >24 hours to three days and half, 63 (50%) of the critically ill patients had medical illness (Table 1). The stress was categorized as mild, moderate, and severe on the basis of scores. Almost two-thirds, 83 (65.9%) of the caregivers had moderate stress followed by mild, 28 (22.2%) and severe stress 15 (11.9%) (Table 2). The majority of the care givers, 112 (89%) expressed from some stress to extreme stress related to financial factors followed by future care needs of the patient 110 (87%) and alteration in daily work life or previous commitment to work. Likewise, the majority of caregivers had no stress related to change in relationships with relatives 118 (93.7%), conflicts with family over care decisions 103 (81.7%), and conflicts within family about the support to the care giver 90 (71.4%) respectively (Table 3). About half, 64 (50.8%) of the caregivers had some stress to extreme stress

regarding the components of care factors. Financial factor is the greater stressing factors which accounts some stress to extreme stress 111 (88.3%) among care givers. However, more than three- fourth 97 (76.6%) of

the caregivers had no stress related to family factors which shows good support from family (Table 4). Level of stress was significantly association with education level (p - value = 0.021), marital status (p - value = 0.038) and family income (p - value=0.001).

Table 1: Sociodemographic characteristics of caregivers

Characteristics	n (%)
Age (in completed yrs)	
20-40 years	102 (81)
40-60 years	24 (19)
Mean (SD) = 34.43±8.21	
Sex	
Male	70 (55.6)
Female	56 (44.4)
Religion	
Hindu	107 (84.9)
Buddhist	13 (10.3)
Others	6 (4.8)
Marital Status	
Married	105 (83.3)
Unmarried	21(16.7)
Level of Education	
Basic	61 (48.4)
Secondary	28 (22.2)
University	37 (29.4)
Occupation	
Business	49 (38.9)
Service	43 (34.2)
Agriculture	14 (11.1)
Labor worker	12 (9.5)
Student	8 (6.3)
Monthly Family income (NPR)	
≤25000	47 (37.3)
25000-5000	71 (56.4)
>50000	8 (6.3)
Mean (SD) =26603.17±8322.57	
Relation with patient	
Children	36 (28.6)
Spouse	28 (22.2)
Siblings	25 (19.8)
Parents	21 (16.7)
Others	16 (12.7)
Duration of stay with patient	
24 hour	45 (35.7)
>24 hour	81(64.3)

Table 2: Level of stress among caregivers

Level of stress	n (%)
Mild stress	28 (22.2)
Moderate stress	83 (65.9)
Severe stress	15 (11.9)

Table 3: Factors related to the level of stress among caregivers

S.N.	Statements	Level of stress				
		NS n (%)	SS n (%)	MS n (%)	AS n (%)	ES n (%)
1.	Being overwhelmed, or over burden.	86 (68.3)	29 (23)	5 (4)	3 (2.4)	3 (2.4)
2.	Change in relationship with relatives.	118 (93.7)	4 (3.2)	2 (1.6)	2 (1.6)	0 (0)
3.	Change in social life.	39 (31)	70 (55.6)	13 (10.3)	4 (3.2)	0 (0)
4.	Conflict with daily work/life.	17 (13.5)	34 (27)	56 (44.4)	13 (10.3)	6 (4.8)
5.	Trapped by the responsibilities or demands of care giving.	76 (60.3)	38 (30.2)	8 (6.3)	2 (1.6)	2 (1.6)
6.	Lack of confidence to provide care.	82 (65.1)	36 (28.6)	6 (4.8)	1 (0.8)	1 (0.8)
7.	Concerns about the future care needs of the patient.	16 (12.7)	52 (41.3)	42 (33.3)	13 (10.3)	3 (2.4)
8.	Conflicts with family over care decisions.	103 (81.7)	19 (15.1)	3 (2.4)	1 (0.8)	0 (0)
9.	Conflicts within family about the support.	90 (71.4)	27 (21.4)	7 (5.6)	1 (0.8)	1 (0.8)
10.	Financial difficulties for care giving.	14 (11.1)	33 (26.2)	45 (35.7)	30 (23.8)	4 (3.2)

NS=No Stress, SS=Some Stress, MS=Moderate Stress, AS=A lot of Stress, ES=Extreme, Stress

Table 4: Domain based stress among caregivers*

Stress scale	NS	SS	MS	AS	ES
	n (%)	n (%)	n (%)	n (%)	n (%)
Care giving issues	434 (49.2)	263 (29.8)	132 (15)	38 (4.3)	15 (1.7)
Family issues	193 (76.6)	46 (18.3)	10 (4)	2 (0.8)	1 (0.8)
Financial issues	14 (11.7)	33 (26.2)	45 (35.7)	30 (23.8)	4 (3.2)

*Multiple responses, NS=No Stress, SS=Some Stress, MS=Moderate Stress, AS=A lot of Stress, ES=Extreme, Stre

Table 5: Association between selected sociodemographic variables and level of stress

Variables	Mild stress	Moderate stress	Severe stress	Total	p-value
Age (in years)					
≤30	11	32	5	48	0.919
>30	17	51	10	78	
Sex					
Male	15	45	10	70	0.652
Female	13	38	5	56	
Education					
≤Class 12	15	60	14	89	0.021 [†]
>Class 12	13	23	1	27	
Occupation					
Employed	24	66	11	101	0.605
Unemployed	4	17	4	25	
Marital status					
Married	20	74	11	105	0.038 [†]
Unmarried	8	9	4	21	
Family income in NRS					
≤25000	6	51	10	67	0.001 [†]
>25000	22	32	5	59	
Duration of stay with patient					
24 hours	7	34	4	45	0.231
>24 hours	21	49	11	81	

p-value significant at ≤ 0.05 level [†]= chi square test

DISCUSSION

This study highlighted the level of stress among caregivers of critically ill patients and associated sociodemographic variables. This study presents that almost two-third (65.9%) of the caregivers had moderate stress and least of them (11.9%) had severe stress which is in line with the study conducted in India which shows that majority (90%) had moderate stress and least of them (2%) had severe stress.⁸ This can be because caregiver experiences numerous challenges, problems and issues while providing care to the critically ill patients that increases stress among them.

Financial factor is isolated as major factor of stress which accounts 88.7% of caregivers. They had faced some stress to extreme stress because of financial factors, while only 11.3% had no stress related to financial factors. It might be because of costly health care services which should be paid by caregiver or family members of the patients. Regarding the family factor, there was moderate stress among one third (35.7%) of the caregivers while more than two third (76.6%) of them had no stress related to family factor. It might be because of good family support system during illness and hospitalization. These findings are supported by the findings of similar study conducted in Nepal which showed two fifth (43.9%) caregivers experienced moderate stress related to financial factors. This shows that caregivers experience more stress related to financial factors than care factors and family factors.²¹

The current study, there is significant association between caregiver's level of stress and family income (p -value = 0.001). This can be because monthly income of the family can look after the hospital expenses and provide other facilities in caring the patient. Whereas family with less monthly income is deprived of providing adequate care and acquire necessary health services that increases stress among the caregivers. This study also shows that there is significant association between education

status (p -value = 0.02), marital status (p -value = 0.03) and caregivers stress level. In contrast to this, a study conducted in India revealed that there is no significant association between family income, educational status, and caregiver's level of stress.⁸

The study was limited only in a single center so generalization to other population is limited. Since the data collection method is face to face interview, it can limit the participants anonymity. There is a chance to provide socially acceptable answers from the participants which can hide the real answer.

CONCLUSION

Financial factor was found to be a major stress factor when treating patients in critical care settings. It might be because of costly treatment charges which should be paid by the out of pocket of the family members and relatives of patients. Since, caregivers are more stressed due to financial factor, provision of insurance scheme can be implemented at all levels of hospitals to cover the health care expenses. It would be better if the government health service become more accessible to the general public which is cheaper than the private sectors. Majority of the caregivers have severe to moderate levels of stress so they need support to cope and adapt with stress.

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